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Takemura et al.

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(54) **OPTICAL DISK COMPATIBLE WITH
READ-ONLY DISK AND HAVING
READ-ONLY AND REWRITABLE AREAS
WITH OVERLAPPING FORMATS**

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59.75, 44.26

(56) References Cited

U.S. PATENT DOCUMENTS

5,023,854 A 6/1991 Satoh et al.
5,521,900 A 5/1996 Ando et al.

5,537,387 A 7/1996 Ando et al.
5,737,639 A 4/1998 Ohmori
5,896,364 A * 4/1999 Okazaki et al. 369/275.3
6,078,559 A * 6/2000 Takemura et al. 369/275.3
6,317,407 B1 * 11/2001 Takemura et al. 369/275.3

FOREIGN PATENT DOCUMENTS

EP	0542730	1/1987
EP	0555065	8/1993
EP	0613144	8/1994
EP	0768648	4/1997
EP	0893792	1/1999
JP	62197929	9/1987
JP	62285232	12/1987
JP	2232831	9/1990
JP	8022640	1/1996
TW	0256918	9/1995

* cited by examiner

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(57) ABSTRACT

The optical disk of this invention includes a read-only area in which a plurality of read-only tracks are formed and a rewritable area in which a plurality of rewritable tracks are formed, wherein each of the plurality of read-only tracks is divided into a plurality of first sectors, a signal is prerecorded in at least one of the plurality of first sectors under a predetermined reproduction format, each of the plurality of rewritable tracks is divided into a plurality of second sectors, a signal is recordable in at least one of the plurality of second sectors under a predetermined recording format including the predetermined reproduction format, and the read-only area is located on an inner portion of the optical disk, while the rewritable area is located on an outer portion of the optical disk.

2 Claims, 10 Drawing Sheets

